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**REMARKS**

Claims 1-4, 6-10, 21, 22, 25, and 28-30, all the claims pending in the application, stand rejected on prior art grounds. Applicants respectfully traverse these rejections based on the following discussion.

**I. The Prior Art Rejections**

Claims 1-4 and 6-10 stand rejected under 35 U.S.C. §102(b) as being anticipated by Nicolay (U.S. Patent No. 4,198,744). Claims 21 and 22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Nicolay. Claims 25 and 28-30 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Nicolay in view of Prior Art Admitted by Applicant. Applicants respectfully traverse these rejections based on the following discussion.

**A. The Rejections Based on Nicolay**

With respect to the anticipation rejections based upon Nicolay, Applicants respectfully submit that Nicolay does not anticipate or render obvious the claimed invention because, among other reasons, the claimed invention defines "a continuous conductive inverse-U shaped fuse." Initially, Applicants note that Nicolay describes the fuse element as item 46 (column 4, line 8) and describes items 50 and 52 as interconnects (column 4, line 7) that are separate from the fuse element 46. The fuse element 46 is clearly a planar fuse as shown in Figure 9 of Nicolay. The Office Action proposes that, if one ordinarily skilled in the art been motivated to classified the planar fuse element 46 as being the same element as interconnects 50 and 52, the resulting structure would comprise an inverse-U shape fuse; however, such a proposed structure would not be a "continuous conductive inverse-U shaped fuse" as defined by all of the independent claims.

As shown in Applicants' Figure 1, the fuse element 130 is a continuous conductive element. This is because, as shown in Applicants' Figure 4, the fuse element

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130 is formed in a damascene process where the conductive material 130 fills openings 300, 301 and covers the insulator 205. While various portions of this continuous conductive element 130 are described and labeled (e.g., horizontal fuse element 140 and pair of fuse electrodes 150, 151) the fuse being claimed is a "continuous conductive inverse-U shaped fuse." This structure is not taught or suggested in Nicolay (either according to the plane teachings of Nicolay or according to the interpretation of Nicolay in the Office Action).

Nicolay discloses a planar fuse element 46 in contact with interconnects 50, 52. This fuse element 46 is planar and does not have the claimed inverse-U shape. Therefore, for Anticipation purposes under 35 U.S.C. § 102(b) Nicolay does not anticipate the invention as defined by independent claims 1 and 8.

The Office Action apparently argues that the teachings of Nicolay could be modified to consider the interconnects 50, 52 as a portion of the fuse element 46. On page 2 (last line) of the Office Action, it is argued that the inverse-U shaped "fuse" comprises three elements 46/50/52. Inconsistently, on page 3, line 5, the Office Action argues that the "fuse" is only element 46, and therefore it discloses the claimed continuous conductive element. However, the claims define "a continuous conductive inverse-U shaped fuse" (claim 1, line 3; claim 8, line 3). The inconsistent description of what constitutes the "fuse" in the applied reference Nicolay demonstrates that the continuous conductive element described in Nicolay does not have the claimed inverse-U shape.

Applicants first note that for a reference to anticipate a claimed invention, it must teach each and every element of the claimed invention. Here, Nicolay discloses a planar fuse element 46 and does not disclose the claimed "continuous conductive inverse-U shaped fuse" as defined by independent claims 1 and 8, and therefore does not anticipate the invention. Further, the invention as defined by independent claims 1 and 8 is not obvious in view of Nicolay because there is no teaching or suggestion that the interconnects 50, 52 and the planar fuse element 46 should be formed as a "continuous conductive element" as claimed. Additionally, there is no explanation in Nicolay as to how one ordinarily skilled in the art would have formed the fuse so that it could be a "continuous conductive element." Therefore, even if this rejection is interpreted as an

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"obviousness" type rejection, the claimed invention is still not taught or suggested by Nicolay.

In view of the foregoing, Applicants respectfully submit that Nicolay does not teach or suggest "a continuous conductive inverse-U shaped fuse," as defined by independent claims 1 and 8. Therefore, these claims are not anticipated by Nicolay and are allowable. Further, Applicants submit that dependent claims 2-7, 9-10, 21, and 22 are similarly patentable, not only by virtue of their dependency from a patentable independent claim, but also by virtue of the additional features defined. Therefore, the Examiner is respectfully requested to reconsider and withdraw these rejections.

**B. The Rejection Based on Nicolay in view of Admitted Prior Art**

With respect to the obviousness rejection based upon Nicolay and the admitted prior art, Applicants respectfully submit that Nicolay does not render obvious the claimed invention because, among other reasons, the claimed invention defines "a continuous conductive inverse-U shaped fuse." Initially, Applicants note that Nicolay describes the fuse element as item 46 (column 4, line 8) and describes items 50 and 52 as interconnects (column 4, line 7) that are separate from the fuse element 46. The fuse element 46 is clearly a planar fuse as shown in Figure 9 of Nicolay. The Office Action proposes that, if one ordinarily skilled in the art been motivated to classified the planar fuse element 46 as being the same element as interconnects 50 and 52, the resulting structure would comprise an inverse-U shape fuse; however, such a proposed structure would not be a "continuous conductive inverse-U shaped fuse" as defined by all of the independent claims.

As shown in Applicants' Figure 1, the fuse element 130 is a continuous conductive element. This is because, as shown in Applicants' Figure 4, the fuse element 130 is formed in a damascene process where the conductive material 130 fills openings 300, 301 and covers the insulator 205. While various portions of this continuous conductive element 130 are described and labeled (e.g., horizontal fuse element 140 and pair of fuse electrodes 150, 151) the fuse being claimed is a "continuous conductive inverse-U shaped fuse." This structure is not taught or suggested in Nicolay (either

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according to the plane teachings of Nicolay or according to the interpretation of Nicolay in the Office Action).

Nicolay discloses a planar fuse element 46 in contact with interconnects 50, 52. This fuse element 46 is planar and does not have the claimed inverse-U shape. The Office Action apparently argues that the teachings of Nicolay could be modified to consider the interconnects 50, 52 as a portion of the fuse element 46. On page 2 (last line) of the Office Action, it is argued that the inverse-U shaped "fuse" comprises three elements 46/50/52. Inconsistently, on page 3, line 5, the Office Action argues that the "fuse" is only element 46, and therefore it discloses the claimed continuous conductive element. However, the claims define "a continuous conductive inverse-U shaped fuse" (claim 25, line 3). The inconsistent description of what constitutes the "fuse" in the applied reference Nicolay demonstrates that the continuous conductive element described in Nicolay does not have the claimed inverse-U shape.

The invention as defined by independent claim 25 is not obvious in view of Nicolay because there is no teaching or suggestion that the interconnects 50, 52 and the planar fuse element 46 should be formed as a "continuous conductive element" as claimed. Additionally, there is no explanation in Nicolay as to how one ordinarily skilled in the art would have formed the fuse so that it could be a "continuous conductive element." Therefore, even if this rejection is interpreted as an "obviousness" type rejection, the claimed invention is still not taught or suggested by Nicolay.

In view of the forgoing, Applicants respectfully submit that Nicolay does not teach or suggest "a continuous conductive inverse-U shaped fuse," as defined by independent claim 25. Therefore, claim 25 is not obvious in view of Nicolay and is allowable. Further, Applicants submit that dependent claims 28-30, are similarly patentable, not only by virtue of their dependency from a patentable independent claim, but also by virtue of the additional features defined. Therefore, the Examiner is respectfully requested to reconsider and withdraw these rejections.

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### III. Formal Matters and Conclusion

In view of the foregoing, Applicants submit that claims 1-4, 6-10, 21, 22, 25, and 28-30, all the claims presently pending in the application, are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary.

Please charge any deficiencies and credit any overpayments to Attorney's Deposit Account Number 09-0458.

Respectfully submitted,



Frederick W. Gibb, III  
Reg. No. 37,629

Date: 7/23/04  
McGinn & Gibb, PLLC  
2568-A Riva Road, Suite 304  
Annapolis, Maryland 21401  
(301) 261-8071  
Customer No. 28211